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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/669,892      | 09/25/2003  | Toshihiko Shimizu    | Q77479              | 2235             |

23373 7590 07/09/2007  
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| EXAMINER |
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NEGRON, WANDA M

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| ART UNIT | PAPER NUMBER |
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2622

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| MAIL DATE | DELIVERY MODE |
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07/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/669,892 | <b>Applicant(s)</b><br>SHIMIZU ET AL. |  |
|                              | <b>Examiner</b><br>Wanda M. Negrón   | <b>Art Unit</b><br>2622               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I, claims 1-4 and 9, in the reply filed on 5/29/2007 is acknowledged.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 2, 4 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 2 recites the limitation "the convex surfaces", "the convex lenses", and "the flat plate" in lines 3-4. There is insufficient antecedent basis for these limitations in the claim. For examination purposes, the terms "the convex surfaces", "the convex lenses", and "the flat plate" have been replaced with the terms "the convex surface", "the plane-convex lens", and "the flat surface" for the remainder of this Office action.

Claim 4 recites the limitation "the flat plate" and "the convex lens" in lines 2-3. There is insufficient antecedent basis for these limitations in the claim. For examination purposes, the terms "the flat plate" and "the convex lens" have been replaced with the terms "the flat surface" and "the plane-convex lens" for the remainder of this Office action.

Claim 9 recites the limitation "the glass plane-convex lens" in page 34, line 1. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the term "the glass plane-convex lens" has been replaced with the term "a glass plane-convex lens" for the remainder of this Office action.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Omura (JP Application Publication No. 2002-202455).**

Regarding **claim 1**, Omura discloses a lens (1) with an infrared ray filter (13) comprising an infrared ray insulating dielectric multilayer film for cutting infrared rays (see paragraph [0020]) on one of the surfaces of a plane-convex lens having a flat refractive surface (11) on one side and a convex refractive surface (12) on the opposite side. In addition, Omura would have reasonably suggested to one of ordinary skill in the relevant art that the plane-convex lens is preferably made of glass because in paragraph [0003] Omura teaches that, when depositing the multilayers of dielectric for infrared cutoff, a glass substrate is preferred.

Regarding **claim 2**, Omura reasonably suggests that the convex surface of the plane-convex lens is formed integrally on one side of the flat surface, i.e. the plane-convex lens is not a combination of two different lenses (see integral lens 1 in figures 1-2).

Regarding **claim 4**, Omura discloses that the geometric center of the contour of the flat surface coincides with the optical axis of the plane-convex lens (see figure 1 and paragraph [0021]).

Regarding **claim 9**, Omura discloses a compact camera (see paragraphs [0007], [0017]) comprising a solid-state image sensing device, i.e. a CCD (see paragraph [0019]) for converting the received light beam into an electric signal, with an inherent housing required for covering the solid-state image sensing device, having an opening (2), and a lens (1) with an infrared ray filter (13) provided with an infrared ray insulating dielectric multilayer film for cutting the infrared rays (see paragraph [0020]) on either one of the surfaces of a glass plane-convex lens (1) including a flat refractive surface (11) on one side and a convex refractive surface on the other side (12) as the entire portion or a part of a lens system (see paragraph [0017]) for converging the light beam coming through the opening onto the solid-state image sensing device (see figure 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Omura (JP Application Publication No. 2002-202455).**

Regarding **claim 3**, as mentioned in the discussion of claim 1 above, Omura discloses all the limitations of the parent claim. In addition, Omura discloses that the convex surface is aspherical surface (see paragraph 0031). Omura, however, does not explicitly teach that the aspherical surface is an axisymmetric surface in which the curvature radius decreases with the distance from the optical axis.

Official notice is taken that the concept and the advantage of having the curvature radius decreases with the distance from the optical axis in an axisymmetric aspherical lens for capturing an image are well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the aspherical lens disclosed by Omura characterized in that the aspherical surface is an axisymmetric surface in which the curvature radius decreases with the distance from the optical axis in order to correct for any spherical aberrations.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2622

- Ogino et al. (US Patent No. 5,995,279) teach a plano-convex optical element comprising a lens with IR cutoff properties integrated with a low-pass optical filter.
- Utsunomiya (JP Application Publication No. 05-207350) discloses a digital camera comprising a glass lens having a multilayer infrared cutoff film deposited on its surface.
- Hirata (JP Application Publication No. 2000-131521) discloses a plano-convex optical element comprising a lens and an image pickup sensor cover glass.

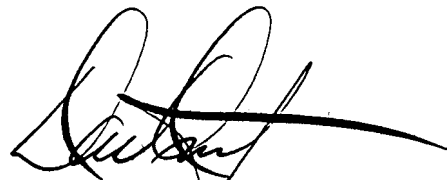
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wanda M. Negrón whose telephone number is (571) 270-1129. The examiner can normally be reached on Mon-Fri 6:30 am - 4:00 pm alternate Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wanda M. Negrón/

Examiner, Art Unit 2622  
June 12, 2007

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal flourish extending to the right.

DAVID OMETZ  
SUPERVISORY PATENT EXAMINER